Atty. Docket No.: BLPU.P103 *Patent* 09/680,131

## REMARKS

Claims 1-30 are pending in the application. Claims 1-10, 12-17, and 22-30 have been canceled herein without prejudice. Claims 11 and 18-21 have been amended. Claims 31-55 have been added. Applicants respectfully submit that support for the new claims is found in the application as filed, including the subject matter of U.S. Patent No. 6,278,978, which was incorporated by reference in the application as filed. No claims have been allowed.

### *Rejections under 35 U.S.C. § 112*

Claims 10, 22, and 30 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 10, 22, and 30 have been canceled herein. Applicants respectfully request withdrawal of the rejections under 35 U.S.C. § 112.

### *Rejections under 35 U.S.C. § 103*

Claims 1-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Turpin (U.S. Patent 5,640,501), hereinafter "Turpin". Turpin discloses a system and method for visually creating goal oriented electronic form applications having decision trees. A system for creating and completion of the electronic forms is disclosed. the system creates a graphical image data file which defines: a graphical image of a form for display and printing; a graphical image of tree branches, tree nodes, and conclusions in association with fields of the form; reading and writing links between form fields and data sources and destinations; and links to other forms which, with the original form, comprise a related stack of forms. The system includes a form creation mode and a run time mode. The trees are defined by an application developer using the form creation mode to establish both qualitative and quantitative relationships between the various fields on the forms thereby providing the basis for the goal oriented prompting for the application user using the run time mode. (Abstract).

Applicants respectfully submit that the claims as amended are allowable over Turpin. Turpin teaches easier to manage and fill out forms. One methodology for this is the use of logic in relation to the fields of the form. However, the logic is taught as

techniques to enable goal-oriented prompting (col. 2, line 5). In other words, logic is used to sequence and choose fields to be filled out. Applicants respectfully submit that this is distinguished from Applicants' claimed use of second-order logic, such as in the imposition of a constraint relating to a rule itself (see, for example, amended claim 11). Applicants submit that Turpin does not teach or suggest self-referential constraints as claimed such that the constraint applies to the rule itself.

This difference exists in part because Turpin's basic goal is to simplify and make more efficient the process of collecting information from a data entrant. The claimed invention, on the other hand, includes the expression of complex constraints; rules relating to a schedule, plus meta-constraints placed upon those constraints (self-referential constraints).

Logic as used by Turpin facilitates automatic typing and expansion of a field (col. 3, line 59, for example), and automatic decisions regarding ordering of form fill-out and field selection based on partial specification of some field contents thus far (for example, col. 2 line 25).

Logic is limited in Turpin to what is described above. Implementation of a meta-rule in the form-filling scenario is a poor fit. An example would be the description of a field, with logic indicating that this description of the field (for example, the values allowable for that field) can be violated 20% of the time only. Such logic is not expressible in Turpin's system (see Table 6 for the form of mathematical expressions that are possible in Turpin). Thus, one of ordinary skill would not be motivated to modify Turpin to arrive at the claimed invention, which has the ability to establish meta-level tolerances governing complex constraints regarding schedule fairness and other criteria.

One skilled in the art would find it difficult to add meta-level rules to Turpin for at least two reasons. First, the innate data structure, decision trees, does not enable such control. That would require reengineering a new data structure altogether, such as a constraint language such as second order logic. Second, the applicability domain of Turpin, namely intelligent ordering and control of forms to be filled in, does not offer the need for the sort of expressiveness claimed by the Applicants.

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Additional differences between "form building" in Turpin and building rules and constraints for a resource scheduling system as claimed include constraints relating to a schedule that does not yet exist, and constraints that can be attached/assigned to different individuals (or objects in the schedule). Turpin does not allow for, teach or suggest such limitations. For these reasons, Applicants respectfully submit that the invention of claim 11 and its dependent claims 18-21 would not have been obvious to one of ordinary skill in view of Turpin.

Support for the new claims is found in the application as filed, including the subject matter of U.S. Patent No. 6,278,978, which was incorporated by reference in the application as filed. Applicants respectfully submit that the claims as amended are patentable over the prior art. For example, Turpin does not disclose or suggest a method or system as claimed for creating a schedule for scheduling a plurality of agents. With reference to independent claim 31, for example, Turpin provides no suggestion regarding generating an initial schedule according to at least one rule, removing a shift from the initial schedule, creating a plurality of possible schedules, evaluating a score function for each of the plurality of possible schedules, selecting an improved schedule from among the plurality of possible schedules, and scheduling the agents in accordance with the improved schedule, as claimed.

One of ordinary skill would not be motivated to modify Turpin to arrive at the claimed invention, at least because Turpin does not make any suggestion of using data to create a schedule. Turpin is limited to teachings regarding creating a form and completing a form. For these reasons, Applicants respectfully submit that claim 31 and its dependent claims, which include yet further limitations, are patentable over Turpin.

Independent claims 40, 44, and 47, directed variously to a method, a system, and a computer-readable medium, include similar limitations referring to generating schedules. Applicants respectfully submit that the remarks with reference to claims 31-39 are also applicable here. Turpin provides not teaching or suggestion regarding schedule generation as claimed. Therefore, Applicants respectfully submit that claims 40, 44, 47 and their respective dependent claims are patentable over Turpin for the same reasons stated with reference to claims 31-39.

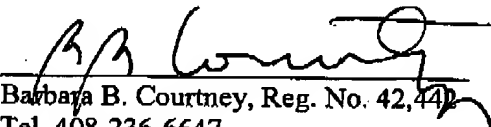Atty. Docket No.: BLPU.P103                                    *Patent* 09/680,131

## CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that claims 11, 18-21, and 31-47 are in condition for allowance. The allowance of the claims is earnestly requested. The Examiner is invited to call the undersigned if there are any issues that remain to be resolved prior to allowance of the claims.

## AUTHORIZATION TO CHARGE DEPOSIT ACCOUNT

Please charge deposit account 501914 for any underpayments in connection with this Office Action response.

Respectfully submitted,
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